



ILLINOIS DRAFTING EDUCATORS ASSOCIATION

INTRODUCTORY DRAFTING TEST COMPUTER-AIDED DRAFTING

IDEA REGIONAL 2010

DO NOT OPEN BOOKLET UNTIL INSTRUCTED TO DO SO

GETTING STARTED:

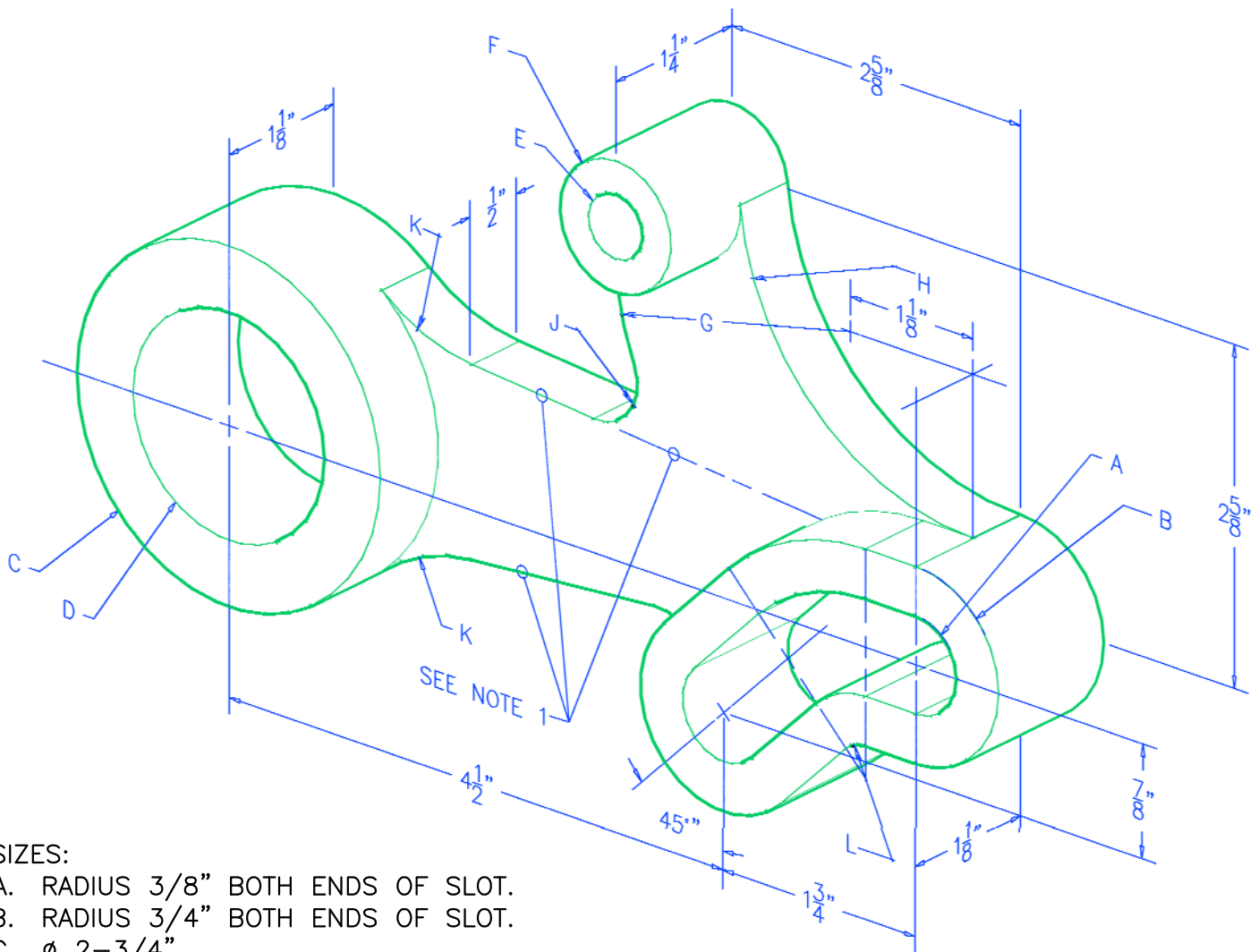
INSTRUCTIONS:

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY.....

1. PLACE YOUR CONTESTANT NUMBER IN THE TITLE BLOCK OF THE ANSWER SHEET. DO NOT PLACE YOUR NAME OR SCHOOL NAME ON THAT SHEET.
2. ON THE FOLLOWING PAGE YOU ARE GIVEN A REDUCED-SCALE PICTORIAL OF A "SWING ARM BRACKET," AND A NARRATIVE DESCRIPTION OF THE PART.
3. CONSTRUCT A FULL-SCALE [REAL SIZE] TWO-VIEW DRAWING, COMPLETE WITH FRONT AND TOP VIEW. IMPORTANT! YOU MAY NOT HAVE TO CONSTRUCT THE ENTIRE VIEWS, BUT ONLY THE NECESSARY GEOMETRY TO CHECK THE REQUIRED DISTANCES. SEE #6 BELOW.
4. BEFORE ANSWERING THE QUESTIONS, YOU SHOULD SET THE CAD SYSTEM TO THREE DECIMAL PLACES WHEN CHECKING DISTANCES. NOTE: THE JUDGE'S ANSWER KEY USES A CAD SOLUTION THAT DID NOT ROUND OFF FRACTIONS, BUT RATHER USED FRACTIONAL INPUT. IF YOU USE DECIMAL INPUT, IT IS RECOMMENDED THAT YOU DO NOT ROUND OFF DECIMALS.
5. USING THE CHECKING ASSIGNMENT SHEET, VISUALIZE WHERE THE LABELED POINTS ARE IN EACH VIEW AND CHECK 2D DISTANCES WITHIN EACH VIEW. ENSURE THAT YOU ARE CHECKING IN THE CORRECT VIEW.
6. YOUR REGIONAL CONTEST DIRECTOR OR CONTEST PROCTOR WILL GIVE YOU INSTRUCTIONS ABOUT WHETHER OR NOT THE DRAWING WILL BE PLOTTED OR SAVED. EACH SITE MAY BE DIFFERENT, SO LISTEN UP, AND GOOD LUCK!

SWING ARM BRACKET DESCRIPTION:

BELOW FIND A REDUCED SCALE PICTORIAL DRAWING OF THE OBJECT. BELOW THE VIEW FIND NOTES ABOUT THE SIZES REPRESENTED. READ THE DESCRIPTION CAREFULLY, AND THEN CONSTRUCT A FULL SIZE FRONT AND TOP VIEW.



SIZES:

- A. RADIUS $\frac{3}{8}$ " BOTH ENDS OF SLOT.
- B. RADIUS $\frac{3}{4}$ " BOTH ENDS OF SLOT.
- C. \varnothing $2\frac{3}{4}$ "
- D. \varnothing $1\frac{3}{4}$ "
- E. \varnothing $\frac{1}{2}$ "
- F. \varnothing 1"
- G. RADIUS $2\frac{1}{8}$ " (TANGENT WITH F — ALSO FIXED DISTANCE AS SHOWN)
- H. RADIUS $2\frac{1}{8}$ " (TANGENT WITH F — ALSO TANGENT WITH HORIZONTAL LINE OF RADIUS B)
- J. RADIUS $\frac{3}{8}$ " (TWO OF THESE — TOP AND BOTTOM OF TAPERED MIDSECTION)
- K. RADIUS $1\frac{1}{2}$ " (TWO OF THESE — TOP AND BOTTOM OF TAPERED MIDSECTION)
- L. RADIUS $\frac{1}{4}$ ", AND USE THE SAME CENTER FOR THREE OTHER ARCS AT 45° BEND.

NOTE 1: BODY HAS DIRECTIONAL TAPER WITH LINES TANGENT BETWEEN \varnothing D AND \varnothing A.



INTRODUCTORY REFERENCE SHEET

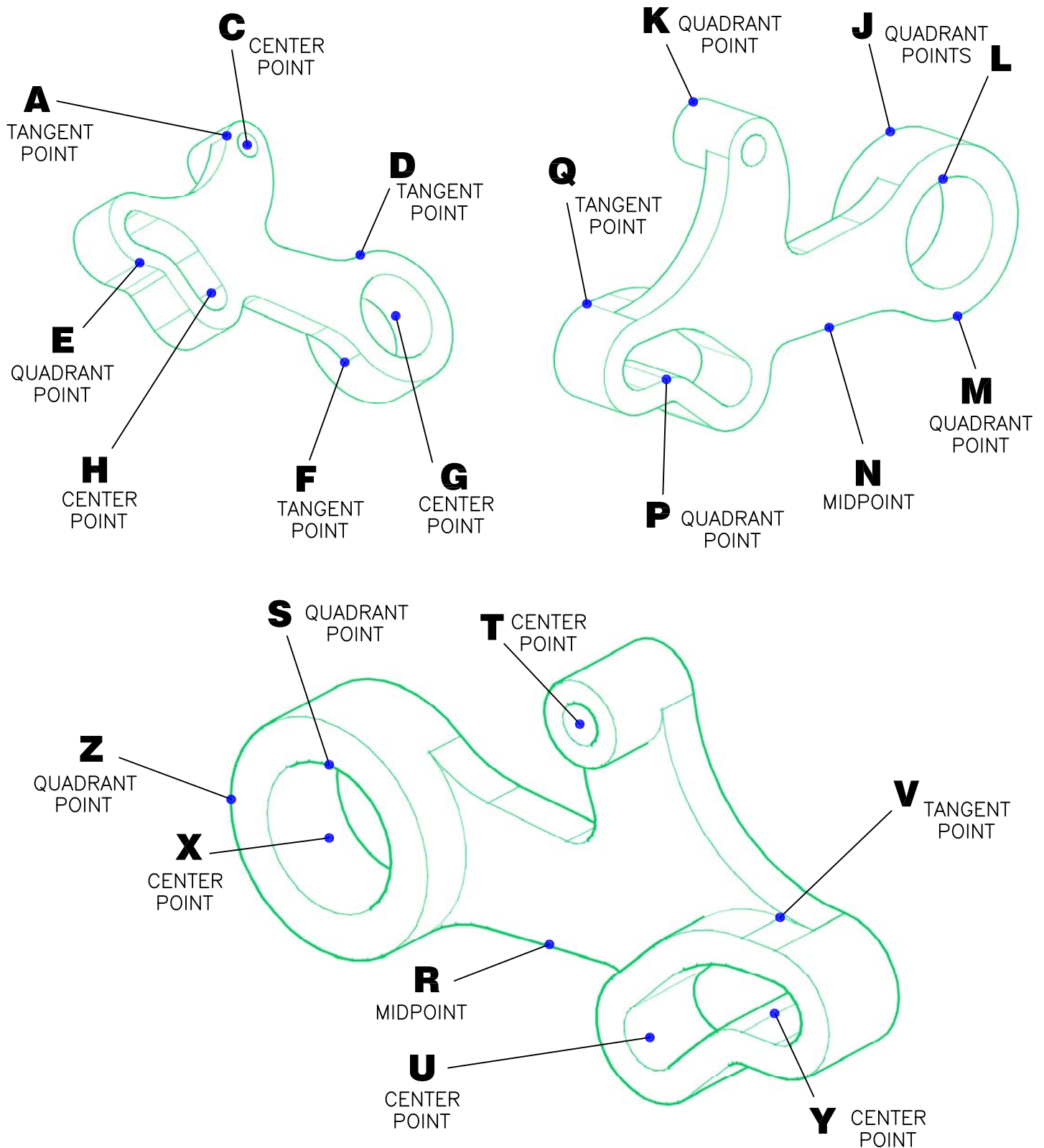
DATE: MARCH, 2010

SCALE: NONE

REGISTRATION

NUMBER:

ILLINOIS DRAFTING EDUCATORS ASSOCIATION
REGIONAL DRAFTING COMPETITION



INTRODUCTORY CONTEST CHECKING GUIDE

DATE: MARCH, 2010

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FOR THE FOLLOWING DISTANCE CHECKS, YOU WILL NOT BE CHECKING THE TRUE 3D DISTANCE BETWEEN POINTS, BUT ONLY THE 2D DISTANCE BETWEEN POINTS IN A PARTICULAR VIEW. THIS REQUIRES YOU TO VISUALIZE THE LOCATION OF THE SPECIFIED CORNERS IN A PARTICULAR VIEW.

FOR EACH ITEM, USE THE CHECK GUIDE SHEET, YOUR CAD SYSTEM (SET TO 3-PLACE DECIMAL PRECISION), AND YOUR CAD DRAWING TO DETERMINE A DISTANCE BETWEEN SPECIFIED POINTS. PLACE THE VALUE FOR EACH DISTANCE CHECK IN THE BLANK AS A NUMBER WITH THREE PLACE DECIMAL PRECISION. (i.e. 4.378)

**PLEASE PLACE YOUR CONTESTANT
NUMBER IN THE TITLE BLOCK**

FRONT VIEW DISTANCE CHECKS

1. D TO E MY DISTANCE _____

2. A TO S MY DISTANCE _____

3. H TO C MY DISTANCE _____

4. F TO U MY DISTANCE _____

5. X TO P MY DISTANCE _____

6. L TO G MY DISTANCE _____

7. K TO V MY DISTANCE _____

8. Z TO Q MY DISTANCE _____

9. M TO J MY DISTANCE _____

10. T TO Y MY DISTANCE _____

TOP VIEW DISTANCE CHECKS

11. Z TO Q MY DISTANCE _____

12. F TO E MY DISTANCE _____

13. K TO L MY DISTANCE _____

14. U TO M MY DISTANCE _____

15. X TO C MY DISTANCE _____

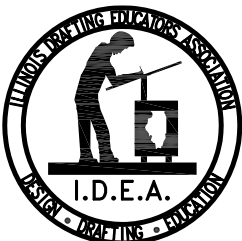
16. Y TO G MY DISTANCE _____

17. S TO H MY DISTANCE _____

18. E TO Z MY DISTANCE _____

19. K TO M MY DISTANCE _____

20. J TO E MY DISTANCE _____



INTRODUCTORY CAD ANSWER SHEET

DATE: MARCH, 2010

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